

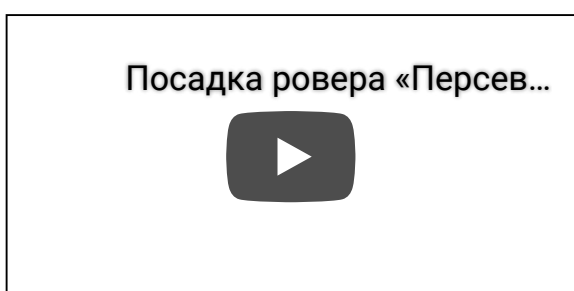
53. Why do we think the video of the descent of Perseverance to Mars could be computer animation?

10-13 minutes

NASA showed the landing of Perseverance on Mars live. I did not follow this historical event, and therefore I looked at the landing in the records on U-Tuba. Frankly, this is some kind of monstrous ridicule. I do not mean computer cartoons with models drawn in 3D graphics by a rover, which the entire Internet is littered with. I'm talking about those three minutes of "live broadcast" from the moment the parachute opens until the rover touches the dusty surface of Mars. They are the ones that cause confusion.

I carefully re-read the description under the video to make sure that I am not watching computer animation, but rather a recording from the rover's video cameras.

NASA has published a video of the Perseverance rover landing on Mars. The high quality video was captured on February 18 by the cameras of the device itself. The recording shows for the first time many details of the complex planting process, previously available only in the form of computer animations.



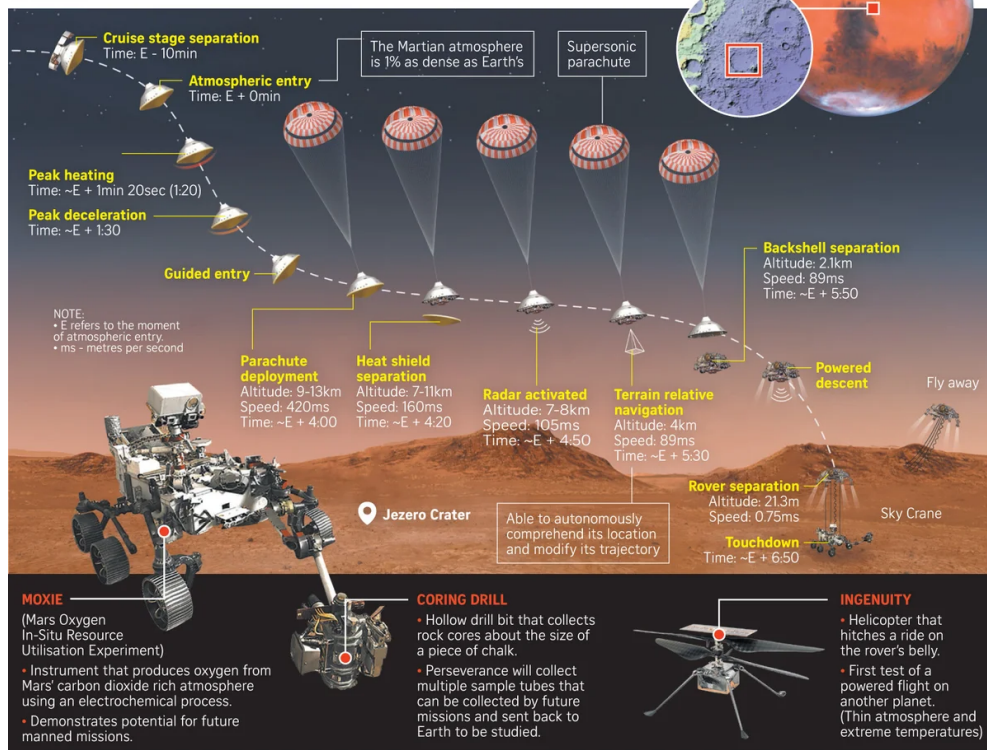
Who made this video? There is some kind of nonsense!

According to the descent scheme to Mars, at an altitude of 1.2 km, the rover is detached from the parachute, and at this moment a reactive-braking installation called the "sky crane" is activated.

Mission to Mars

When Nasa's Perseverance rover lands today, it will become the next robotic inhabitant of Mars. Its primary goal is to find signs of past microbial life on the planet.

LAUNCHED ON: July 30 last year **MISSION DURATION:** At least 1 Mars year (687 Earth days)



Scheme of descent to Mars.

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In computer animation, the last stage of the "landing" looks like this: powerful jets of burning gases are escaping from four nozzles of the reactive-braking installation, and a rover-rover is hanging underneath on cables.

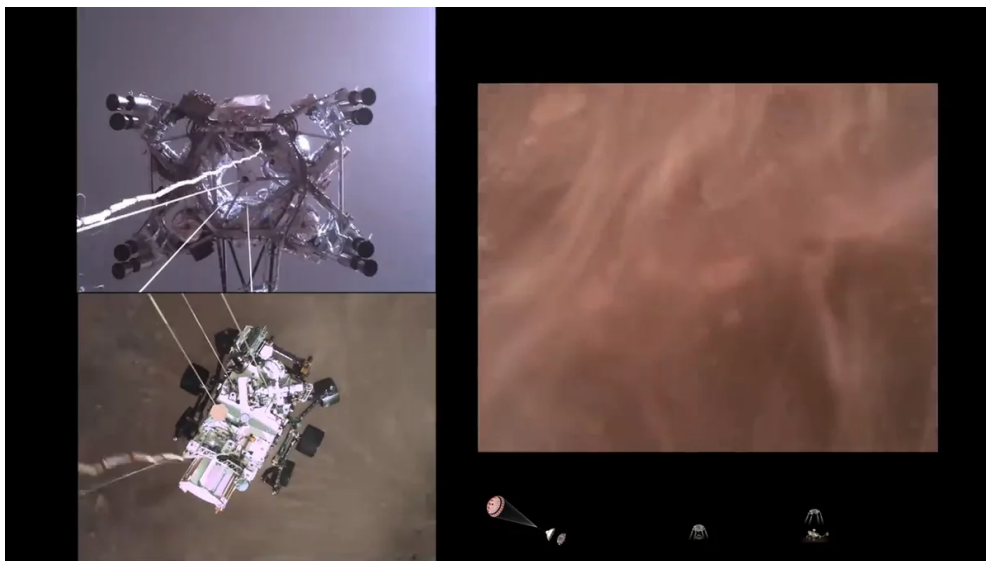


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Thanks to jet streams, the speed of the fall slows down so much that, before reaching the surface of Mars, the "sky crane" hovers at a height of 20 meters, if you count from the very top of the crane, or about 17 meters, if from the edge of the nozzles. By this time, the structure has time to fly a whole kilometer, simultaneously releasing the cable from the winch so that the rover descends from under the bottom. There seems to be some kind of logic.

But when we watch a kind of "real" video from Mars, then there is no logic there anymore. The sky crane is hovering over the surface ... with the engines inoperative. A jet of burning gases is not emitted from any of the nozzles. And the sand scatters in all directions by itself.



The sky crane hovered at a height of about 20 meters, but none of the nozzles were working.

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How does this "sky crane" manage to hang itself above the surface, and even hold the rover weighing more than a ton? How can an invisible jet hold two and a half tons?

The jet of hot gases should distort the space behind the jet, a turbulent plume should be visible. When a jet is flying at high speed, the plume stretches for hundreds of meters and may not be as noticeable. But when the plane is just picking up speed, these eddies are compactly close to the nozzle. So in the case of the "sky crane" - it hovered in place - there should be swirls of

incandescent gases under it. Due to turbulence, the flow will have different refractive indices of light and the jet should be visible.

A plume of hot gases behind a jet plane.

But that is not all. Next, the rover cuts (fires off with the help of squibs) cables (there are three of them) and one cable on its roof. How he does this, we do not understand, since everything is hidden in the dust that has risen. But on the other hand, you can see how, after a few seconds, the reactive-braking installation, apparently with God's help (because the engines are turned off) soars up and goes out of the frame.



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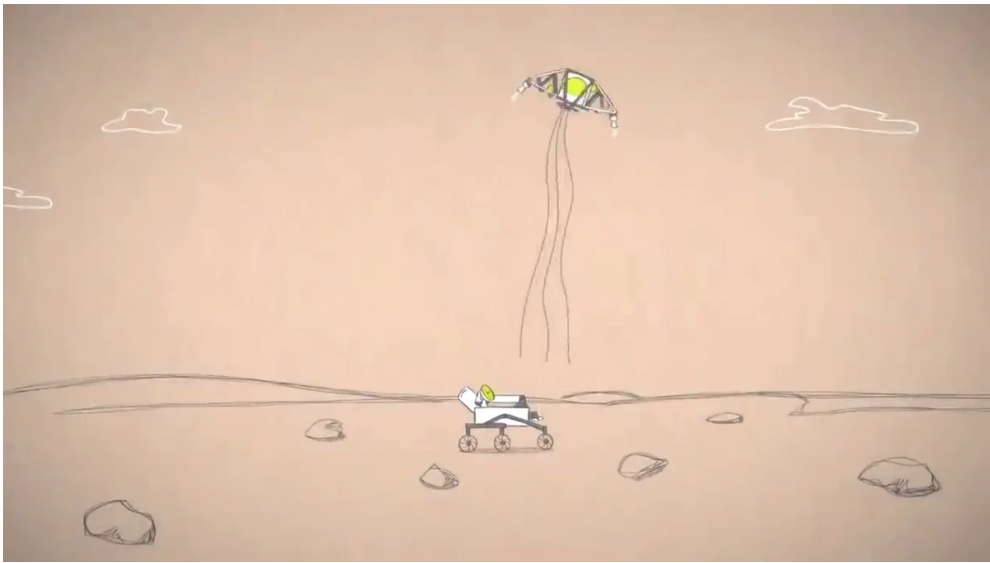
And then questions arise:



Валерий П

Кинооператор рассказывает, А куда делись тросы после отсоединения лифта от марсохода? Лифт улетает без тросов! Думаю, в обновлённой версии этого видео они уже появятся.

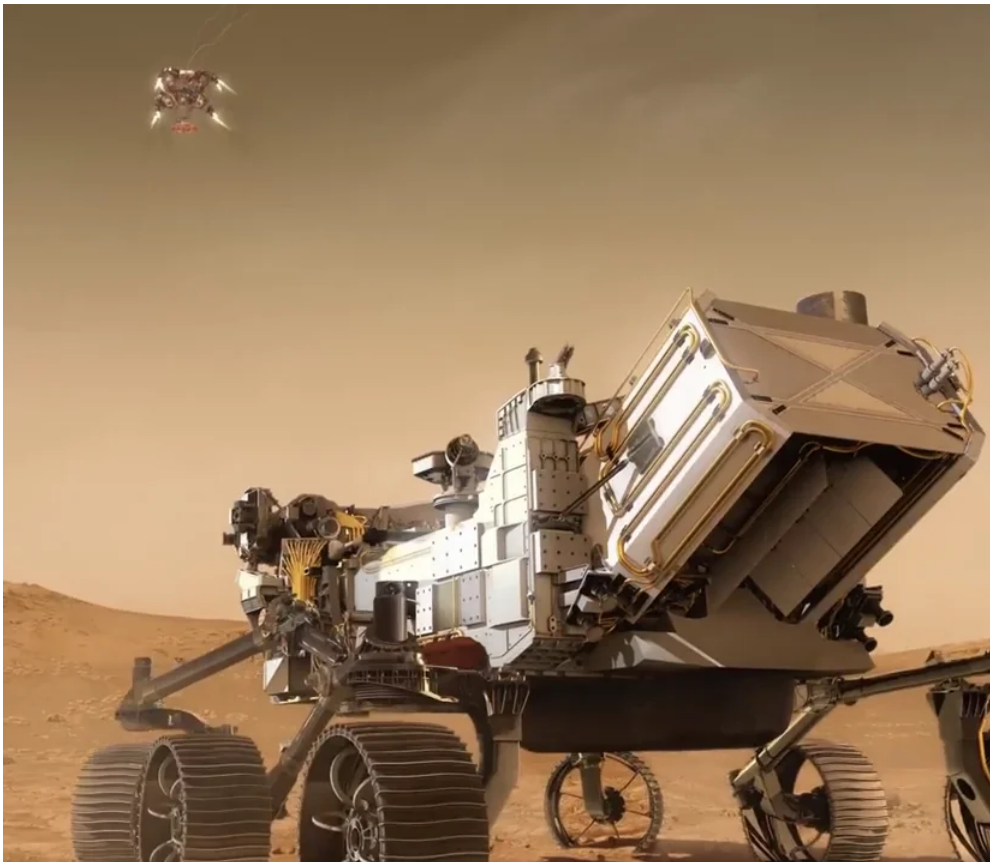
The attachment ropes should not remain on the rover, they will only interfere with it. According to the demo, they are to be carried away by the "sky crane".



The demo shows the "sky crane" carrying the attachment cables with it.

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Yes, indeed, and in another version of the cartoon, approved by NASA, the "sky crane" soars up with ropes:



Behind the "sky crane" there are three threads - these are cables.

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Frankly, I did not understand this "English" humor. Why did they forget about the fastening cables in the "real video"? And why did you forget to "make" jet jets? Again - is invisible fuel burning with invisible light? Like when Apollo took

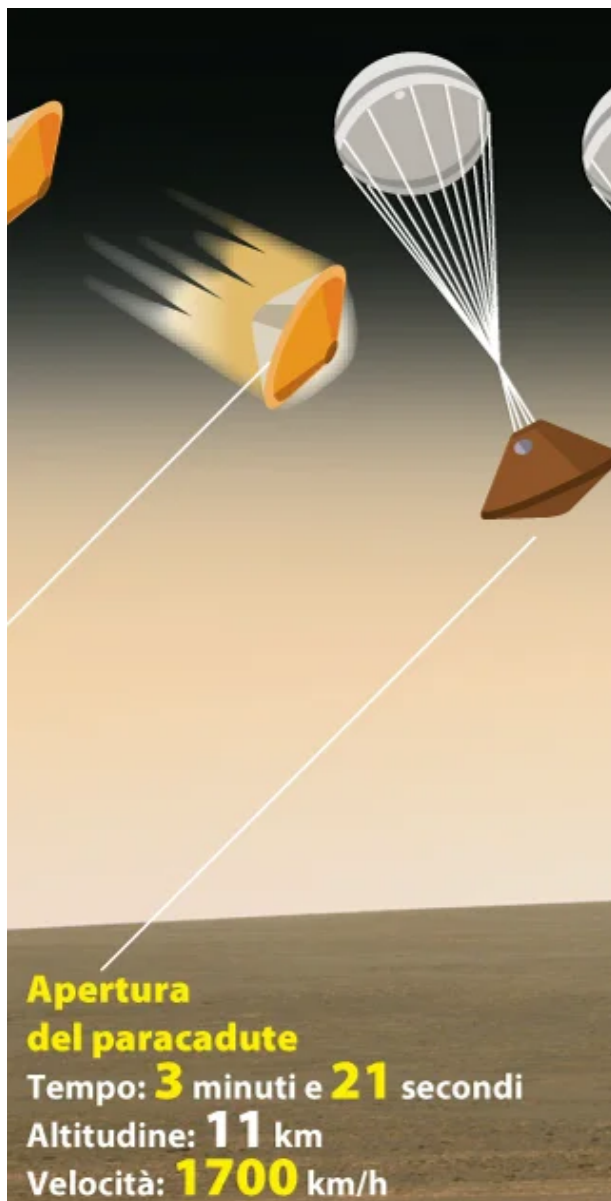
off from the moon? There, too, the take-off stage for no reason itself rose up, as if someone was pulling the model of the lunar module up on a winch. And under the take-off module there were no jets of hot gases.



This alleged "Apollo 17" allegedly starts from the moon.

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But the moment that gives out that all the action was filmed on Earth, and not on Mars, is not this one. The moment I wanted to talk about happens a little earlier, at the moment of opening the parachute. According to pictures from NASA, this is happening at an altitude of 11 km.



The deployment of the parachute according to the plan should take place at an altitude of 11 km, where the sky is black.

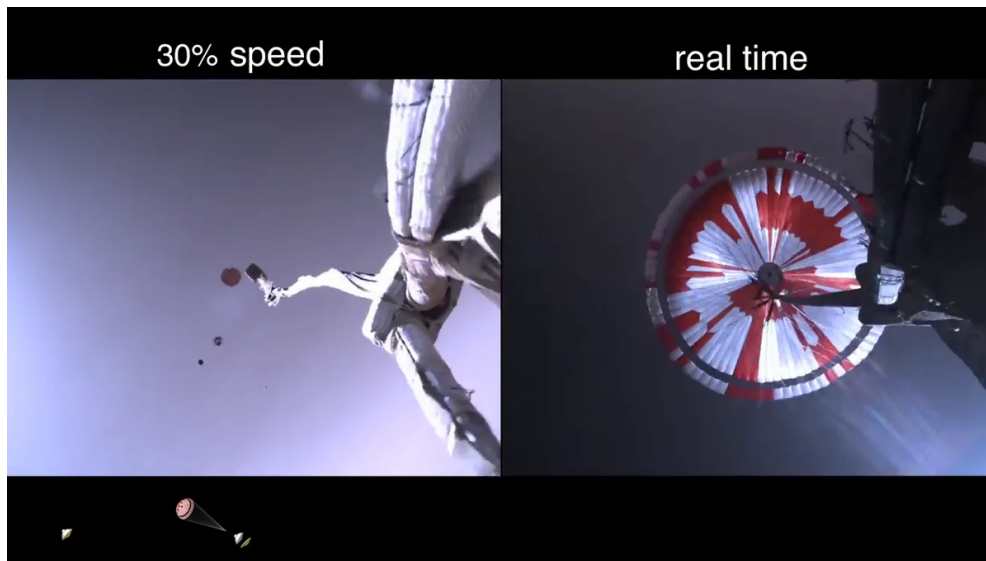
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We know that the pressure of the atmosphere near the surface of Mars is 160 times less than on Earth, this is about the same as in the stratosphere of the Earth at an altitude of 32 km. And the parachute opens 11 km higher. Those. this roughly corresponds to the earth's pressure at an altitude of 43 km (or even higher?). The sky should be completely black there. I will quote two short paragraphs from the article "[Why do Soviet cosmonauts claim that the stars are visible in space, and the American ones that they are not?](#)"

- Hero of the Soviet Union, pilot E.G. Pepelyaev (ill. 3a) in 1950-53 fought in the skies of Korea with the American Sabers. He wrote a fascinating book about these battles. On the topic of this article, we are interested in the following phrase from section 14 of this book: "*When flying at an altitude of **16 km**, the sky darkens and stars appear during the day.*"

- A member of the crew of the Soviet supersonic passenger aircraft Tu-144, engineer O. Kuptsov (ill. 3c) says: *“Once we climbed to an altitude of **20 km** , and it is very surprising - the stars are visible in broad daylight, the black sky and stars are visible”* .

And what do we see in the "live report" at this height? A completely light sky and some kind of atmospheric haze, such as cirrus clouds (frame on the left).



The moment of opening the parachute.

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You can understand the Americans when they show "on Mars" atmospheric haze near the horizon. Undemanding viewers can be fooled into saying that Mars has the same haze as Earth - supposedly a long path of light rays along the surface, where there are many suspended particles of "Martian sand" due to constant sandstorms.



Still from Perseverance. Earth's atmospheric haze is visible.

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The same frame, if you remove the excess yellowness.

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But when they have a haze "on Mars" and at the zenith, overhead, at an altitude of 11 km, where there is no longer any atmosphere, it goes beyond all limits of decency. Even here on Earth, the clear sky at its zenith looks dark blue.

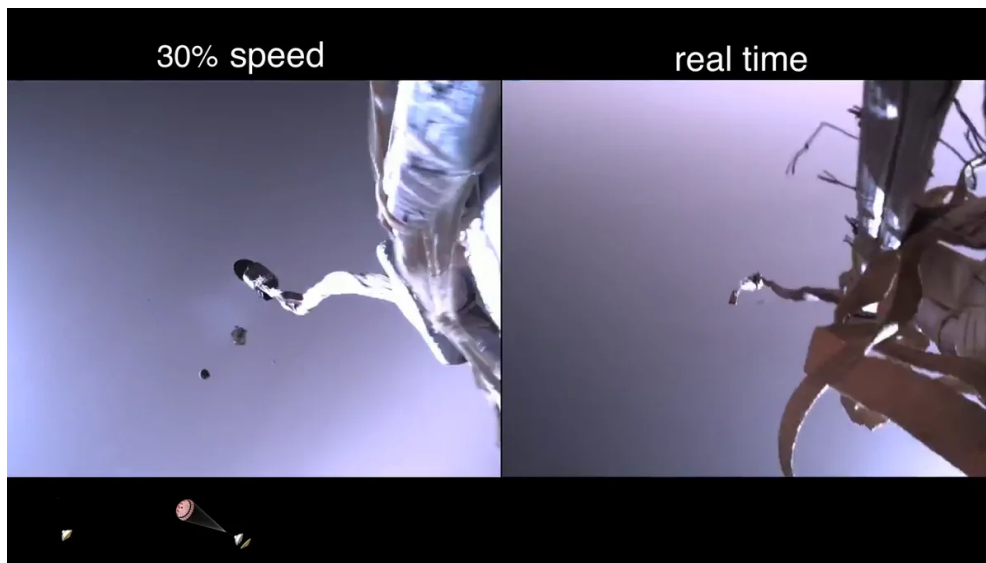


Closer to the zenith, the sky becomes dark blue. Height - 900 meters above sea level.

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So I walk around and think - what kind of qualifications do these NASA workers have? Again, all the footage of the descent to Mars was filmed on Earth? Moreover, they were not filming in the stratosphere, which would be logical in order to simulate the Martian rarefied sky, but filmed at a low altitude, when the sun was, moreover, in a haze. There - what? - Does sand rise to a height of 11 km from the surface of Mars? Is there a dusty sky?

Here are footage from two onboard cameras a second before the parachute opens. The cameras look upward, almost to the zenith. And the sky is light gray. Moreover, the right frame shows that the lines are normally exposed, there is no overexposure, and the sky is too bright.



One second before the opening of the parachute.

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I know there will be humorists who will write that NASA bought the cheapest Chinese cameras on Aliexpress with plastic lenses. And these lenses strongly scatter sunlight coming from the side.

But we know that modern optics with multilayer coating is not afraid even of direct sunlight. How many thousands of such images can be found on the Internet, taken from the ISS, when the sun is directly in the frame. And no light scattering in the lenses is observed.

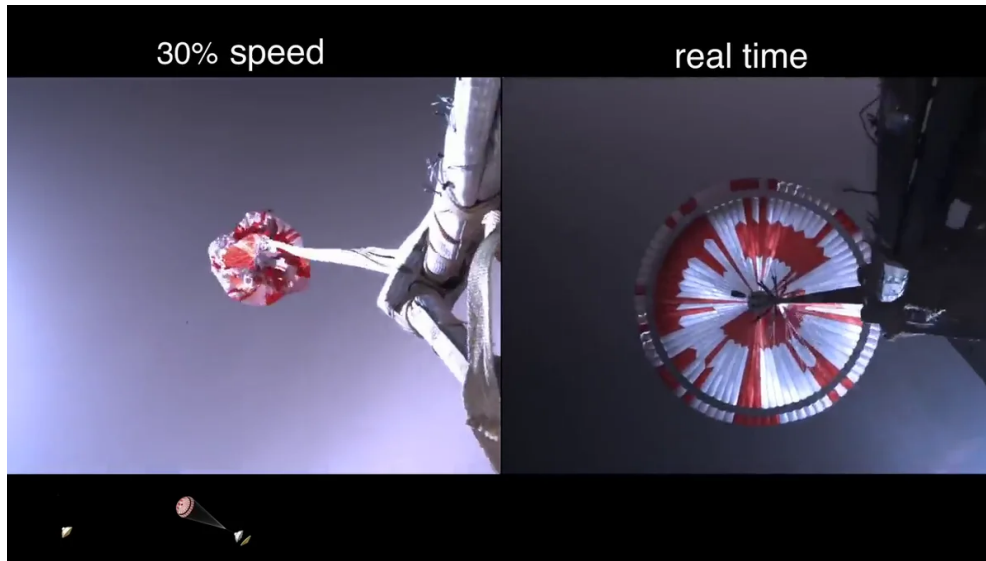


The sun is in the frame. Photo from the ISS.

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Maybe NASA employees hoped that when the parachute opens, the fabric in the sun's rays will turn out to be dazzlingly white in the light, and the exposure

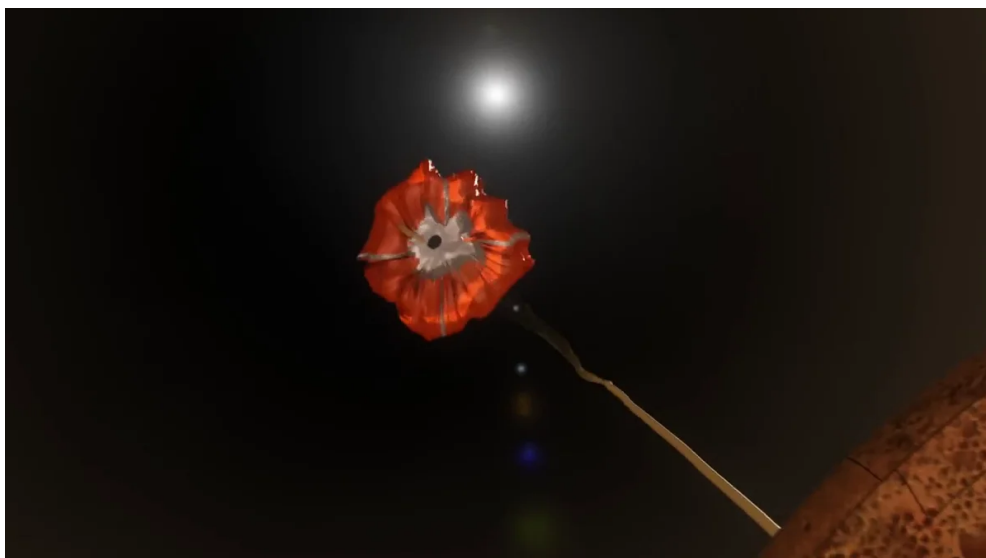
machine will immediately "clamp the aperture", reducing the brightness of the frame and making the "Martian sky" darker? But look - the details of the construction on the right side of the frame have already turned into a silhouette, and the sky has not become black anyway (see the frame on the right).



The automatic exposure control (right frame) darkened the entire frame due to a brightly lit parachute.

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And also note: the show in the official NASA video begins exactly with the opening of the parachute and does not show what the "Martian" sky looked like a few seconds before that moment. And it should be completely black. Even computer scientists understood this when they depicted the opening of the parachute in a demo video - against the background of black space.



The moment of opening the parachute from the animation video.

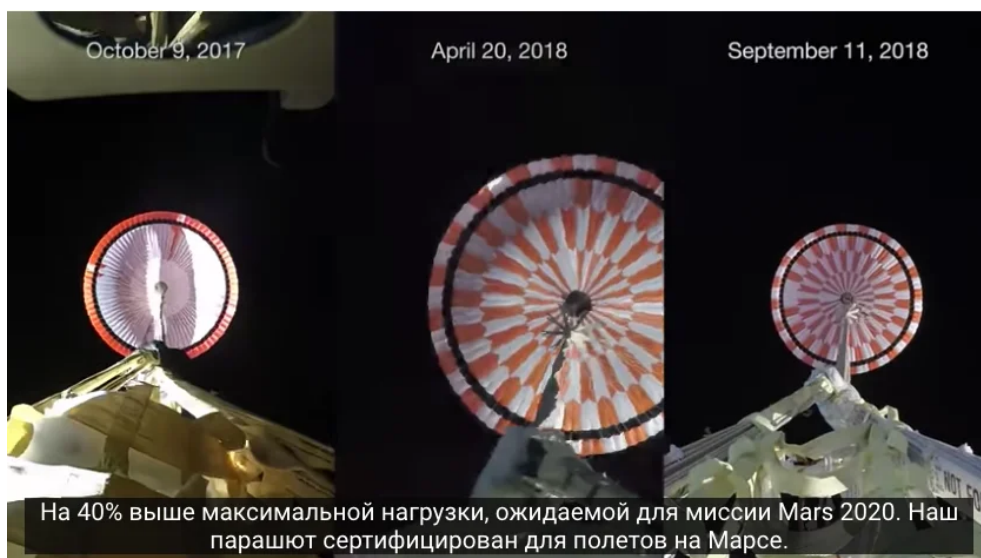
The moment of opening the parachute from the animation video.

Moreover, there is [real tests of a](#) supersonic parachute in the stratosphere.



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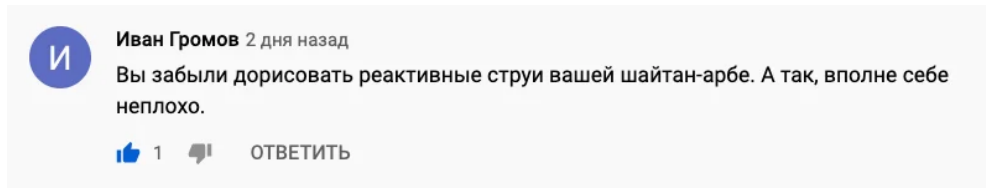
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But in the "descent to Mars" NASA filmmakers failed to repeat this effect, because they filmed at a low altitude on Earth. The hackers. When viewing, the feeling of a global lie does not leave.

Here is a video of the "descent to Mars" from the official NASA channel on U-Tuba. This video has been viewed by over 15 million people.



Among the mass of enthusiastic comments, there are the following:



The topic of Martian images turned out to be so interesting that I will write a couple more articles in the near future.

*

Cameraman L. Konovalov was with you. Until next time!

ATTENTION!

I delete all messages about flat Earth. Dear trolls, do not push your favorite statements about flat earth in the comments. There are NASA websites for such nonsense.